

AMENDMENTS TO THE CLAIMS

1. (Presently amended.) A wiring board, comprising:
an insulative base material;
conductor patterns formed thereon; and
magnetic thin films formed on at least one of said conductor patterns;
and
said magnetic thin films being formed with an insulation layer
interposed therebetween, that covers the entirety of the
surface of said wiring board on which said conductor patterns
are formed.
2. (Original.) The wiring board according to claim 1, wherein said magnetic thin films are formed on said conductor patterns along outer surfaces of said conductor patterns.
- Cancel claim 3.
4. (Original.) The wiring board according to claim 2, wherein said base material is configured of a flexible material.
5. (Original.) The wiring board according to claim 4, wherein said flexible material is a polyimide.
6. (Original.) The wiring board according to claim 1, wherein said magnetic thin films are produced by at least one of sputtering and vapor deposition.
7. (Original.) The wiring board according to claim 1, wherein thickness of said magnetic thin films is within range of 0.3 μm to 20 μm .
8. (Original.) The wiring board according to claim 1, wherein said magnetic thin film is configured of a magnetic loss material having a composition represented by M-X-Y, where M is at least one of Fe, Co, and Ni, X is at least one element other than M or Y, and Y is at least one of F, N, and O,

said magnetic loss material is a narrow-band magnetic loss material in which a maximum value μ''_{\max} of loss factor μ'' that is imaginary component in complex permeability characteristic of said magnetic loss material exists within a frequency range of 100 MHz to 10 GHz, and

a relative bandwidth bwr is not greater than 200% where the relative bandwidth bwr is obtained by extracting a frequency bandwidth between two frequencies at which the value of μ'' is 50% of the maximum μ''_{\max} and normalizing the frequency bandwidth at the center frequency thereof.

9. (Original.) The wiring board according to claim 8, wherein X component of said magnetic loss material is at least one of C, B, Si, Al, Mg, Ti, Zn, Hf, Sr, Nb, Ta, and rare earth elements.

10. (Original.) The wiring board according to claim 8, wherein, in said magnetic loss material, said M exists in a granular form dispersed in matrix of said X-Y compound.

11. (Original.) The wiring board according to claim 8, wherein mean particle diameter of particles M having said granular form is within range of 1 nm to 40 nm.

12. (Original.) The wiring board according to claim 8, wherein said magnetic loss material exhibits an anisotropic magnetic field H_k of 600 Oe (4.74×10^4 A/m) or less.

13. (Original.) The wiring board according to claim 8, wherein said magnetic loss material is selected from $\text{Fe}_\alpha\text{-Al}_\beta\text{-O}_\gamma$ and $\text{Fe}_\alpha\text{-Si}_\beta\text{-O}_\gamma$.

14. (Original.) The wiring board according to claim 8, wherein size of saturation magnetization in said magnetic loss material is within a range of 80% to 60% of saturation magnetization of a metal magnetic body consisting solely of M component.

15. (Original.) The wiring board according to claim 8, wherein said magnetic loss material exhibits a DC electric resistivity that is within a range of $100\ \mu\Omega\cdot\text{cm}$ to $700\ \mu\Omega\cdot\text{cm}$.

16. (Original.) The wiring board according to claim 1, wherein said magnetic thin film is configured of a magnetic loss material having a composition represented by M-X-Y, where M is at least one of Fe, Co, and Ni, X is at least one element other than M or Y, and Y is at least one of F, N, and O,

said magnetic loss material is a broad-band magnetic loss material in which a maximum value μ''_{max} of loss factor μ'' that is imaginary component in complex permeability characteristic of said magnetic loss material exists within a frequency range of 100 MHz to 10 GHz, and

a relative bandwidth bwr is not greater than 150% where the relative bandwidth bwr is obtained by extracting a frequency bandwidth between two frequencies at which the value of μ'' is 50% of the maximum μ''_{max} and normalizing the frequency bandwidth at the center frequency thereof.

17. (Original.) The wiring board according to claim 16, wherein size of saturation magnetization in said magnetic loss material is within a range of 60% to 35% of saturation magnetization of a metal magnetic body consisting solely of M component.

18. (Original.) The wiring board according to claim 16, wherein said magnetic loss material exhibits a DC electric resistivity having a value larger than $500\ \mu\Omega\cdot\text{cm}$.

19. (Presently amended.) A wiring board, comprising:
a board of at least one layer comprising a conductor part, said
conductor part comprising signal line conductor patterns; and
magnetic thin films deployed at least on part of said board or said
conductor part, and being deployed with an insulation layer
interposed therebetween so as to cover said conductor
pattern.

Cancel claims 20-22.

23. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19,
wherein said magnetic thin film is formed on said signal line conductor patterns.

24. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19,
wherein said magnetic thin films are formed so as to be separated from signal
line conductor patterns in portions where said signal line conductor patterns are
not formed.

Cancel claim 25.

26. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19,
wherein said magnetic thin film is fabricated by at least one method of sputtering
and vapor deposition.

27. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19,
wherein said magnetic thin film has a thickness with a range of 0.3 μm to 20 μm .

28. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19,
wherein said wiring board is a multilayer printed wiring board comprising a
structure of at least 3 layers.

29. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19,
wherein said magnetic thin film is configured of a magnetic loss material
represented by M-X-Y, where M is at least one of Fe, Co, and Ni, Y is at least one
of F, N, and O, and X is at least one element other than M or Y,

said magnetic loss material is a broad-band magnetic loss material in the which maximum value of μ''_{\max} of loss factor μ'' that is the imaginary component in the complex permeability of said magnetic loss material exists within a frequency range of 100 MHz to 10 GHz, and

a relative bandwidth bwr is not smaller than 150% where the relative bandwidth bwr is obtained by extracting a frequency bandwidth between two frequencies at which the value of μ'' is 50% of the maximum μ''_{\max} and normalizing the frequency bandwidth at the center frequency thereof.

30. (Original.) The wiring board according to claim 29, wherein size of saturation magnetization in said magnetic loss material is within a range of 60% to 35% of saturation magnetization of a metal magnetic body consisting solely of M component.

31. (Presently amended.) The wiring board according to claim ~~[[19]]~~ 29, wherein said magnetic loss material exhibits a DC electric resistivity having a value larger than 500 $\mu\Omega\cdot\text{cm}$.

32. (Presently amended.) The wiring board according to claim ~~[[22]]~~ 19, wherein said magnetic thin film is configured of a magnetic loss material represented by M-X-Y, where M is at least one of Fe, Co, and Ni, Y is at least one of F, N, and O, and X is at least one element other than M or Y,

said magnetic loss material is a narrow-band magnetic loss material in the which maximum value of μ''_{\max} of loss factor μ'' that is the imaginary component in the complex permeability of said magnetic loss material exists within a frequency range of 100 MHz to 10 GHz, and

a relative bandwidth bwr is not smaller than 200% where the relative bandwidth bwr is obtained by extracting a frequency bandwidth between two frequencies at which the value of μ'' is 50% of the maximum μ''_{\max} and normalizing the frequency bandwidth at the center frequency thereof.

33. (Original.) The wiring board according to claim 32, wherein size of saturation magnetization in said magnetic loss material is within a range of 80% to 60% of saturation magnetization of a metal magnetic body consisting solely of M component.

34. (Original.) The wiring board according to claim 32, wherein said magnetic loss material exhibits a DC electric resistivity that is within a range of $100\ \mu\Omega\cdot\text{cm}$ to $700\ \mu\Omega\cdot\text{cm}$.

35. (Original.) The wiring board according to claim 32, wherein X component of said magnetic loss material is at least one of C, B, Si, Al, Mg, Ti, Zn, Hf, Sr, Nb, Ta, and rare earth elements.

36. (Original.) The wiring board according to claim 32, wherein, in said magnetic loss material, said M exists in a granular form dispersed in matrix of said X-Y compound.

37. (Original.) The wiring board according to claim 32, wherein mean particle diameter of particles M having said granular form is within range of 1 nm to 40 nm.

38. (Original.) The wiring board according to claim 32, wherein said magnetic loss material exhibits an anisotropic magnetic field H_k of 600 Oe ($4.74 \times 10^4\ \text{A/m}$) or less.

39. (Original.) The wiring board according to claim 8, wherein said magnetic loss material is selected from $\text{Fe}_\alpha\text{-Al}_\beta\text{-O}_\gamma$ and $\text{Fe}_\alpha\text{-Si}_\beta\text{-O}_\gamma$.